Optical Tranceivers

Omnitron Pluggable Optical Transceivers for CWDM Wavelengths

Omnitron's Small Form Pluggable (SFP) and 10 Gigabit SFP+/XFP optical transceivers are interchangeable compact fiber connectors that enable a single network device to connect to a wide variety of fiber optic cable types and distances.

CWDM Pluggable Optical Transceivers are used to customize *iConverter*®, FlexPoint™, *OmniConverter*™ and *miConverter*™ products to meet specific networking protocols and media requirements. They support single-mode dual fiber applications with Coarse Wave Division Multiplexing (CWDM) wavelengths.

CWDM Pluggable Optical Transceivers increase network capacity by transmitting multiple data channels using separate optical wavelengths (1270nm to 1610nm) on the same fiber pair. These wavelengths are compliant to the ITU G.694 CWDM standard.

Pluggable Optical Transceivers reduce network equipment inventories by eliminating the need to maintain surplus units/ devices of various fiber types for network repairs or upgrades. They also enable network upgrades and growth by providing interchangeable fiber connectors that can easily adapt to and modify any existing network. For example, a media converter that was originally used in a single-mode network can be re-configured to operate over a CWDM network by simply replacing the pluggable optical transceiver.

Based on the MSA SFF-8472 standard, Omnitron's CWDM Pluggable Optical Transceivers support digital diagnostic capabilities, providing enhanced diagnostic information to assist network administrators with network maintenance and management. When used in *iConverter* modules managed by Omnitron's *NetOutlook*® SNMP Network Management Software with an Graphical User Interface or third party SNMP software, Omnitron CWDM Pluggable Optical Transceivers can collect enhanced, real time optical diagnostic information including fiber optic TX and RX power, voltage and transceiver temperature.

By providing compact physical size and the ease of interchangeability, Pluggable Optical Transceivers provide a cost-effective and flexible solution for fiber optic network design.

KEY FEATURES

- Compatible with *iConverter* media converter modules, T1/E1 MUXes and Network Interface Devices that support SFP, SFP+ and XFP transceivers
- Compatible with FlexPoint, *OmniConverter* and *miConverter* media converter modules that support SFP transceivers
- Pluggable Optical Transceivers enable flexible fiber optic connectivity
- Supports Coarse Wave Division Multiplexing optics
- Supports standard wavelengths in the spectrum defined by ITU-T G.694.2
- Compliant with MSA SFF-8472 standard, which provides interoperability with other network devices
- Compliant with IEEE 802.3u Fast Ethernet, IEEE 802.3z Gigabit Ethernet and IEEE 802.3ae 10 Gigabit Ethernet specifications
- Digital Diagnostic capability
- Commercial (0^{O} to +70^{O}C) temperature range available
- Low EMI metal enclosure
- LC Connector
- Hot Swappable

ORDERING INFORMATION

Fiber CWDM SFPs for devices that support Fast Ethernet, SONET OC-3 and SDH STM-1 network protocols. Compatible with a variety of Omnitron products, including *iConverter* xFF, T1, T3, X21 and Unmanaged T1/E1 Mux.

Model	Spec. Distance (km)	Wavelength (nm)	Center Wavelength (nm)	Typical Loss[1] (db/km)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Sense (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dBm)	Link Budget (dBm)	Calc. Distance[2] (km)
7127-1	60	1270	1271	0.37	-5	0	-34	-3	3	29	73
7129-1	60	1290	1291	0.35	-5	0	-34	-3	3	29	77.1
7131-1	60	1310	1311	0.33	-5	0	-34	-3	3	29	81.8
7133-1	60	1330	1331	0.32	-5	0	-34	-3	3	29	84.4
7135-1	60	1350	1351	0.31	-5	0	-34	-3	3	29	87.1
7137-1	60	1370	1371	0.33	-5	0	-34	-3	3	29	81.8
7139-1*	60	1390	1391	0.48	-5	0	-34	-3	3	29	56.3
7141-1	60	1410	1411	0.33	-5	0	-34	-3	3	29	81.8
7143-1	60	1430	1431	0.27	-5	0	-34	-3	3	29	100
7145-1	60	1450	1451	0.24	-5	0	-34	-3	3	29	112.5
7127-2	80	1270	1271	0.37	-3	2	-36	-3	5	33	83.8
7129-2	80	1290	1291	0.35	-3	2	-36	-3	5	33	88.6
7131-2	80	1310	1311	0.33	-3	2	-36	-3	5	33	93.9
7133-2	80	1330	1331	0.32	-3	2	-36	-3	5	33	96.9
7135-2	80	1350	1351	0.31	-3	2	-36	-3	5	33	100
7137-2	80	1370	1371	0.33	-3	2	-36	-3	5	33	93.9
7139-2*	80	1390	1391	0.48	-3	2	-36	-3	5	33	64.6
7141-2	80	1410	1411	0.33	-3	2	-36	-3	5	33	93.9
7143-2	80	1430	1431	0.27	-3	2	-36	-3	5	33	114.8
7145-2	80	1450	1451	0.24	-3	2	-36	-3	5	33	129.2
7127-3*	100	1270	1271	0.37	0	5	-36	-3	8	36	91.9
7129-3*	100	1290	1291	0.35	0	5	-36	-3	8	36	97.1
7131-3	100	1310	1311	0.33	0	5	-36	-3	8	36	103
7133-3	100	1330	1331	0.32	0	5	-36	-3	8	36	106.3
7135-3	100	1350	1351	0.31	0	5	-36	-3	8	36	109.7
7137-3	100	1370	1371	0.33	0	5	-36	-3	8	36	103
7139-3*	100	1390	1391	0.48	0	5	-36	-3	8	36	70.8
7141-3	100	1410	1411	0.33	0	5	-36	-3	8	36	103
7143-3	100	1430	1431	0.27	0	5	-36	-3	8	36	125.9
7145-3	100	1450	1451	0.24	0	5	-36	-3	8	36	141.7
7147-4	120	1470	1471	0.22	-5	0	-34	-3	3	29	122.7
7149-4	120	1490	1491	0.21	-5	0	-34	-3	3	29	128.6
7151-4	120	1510	1511	0.2	-5	0	-34	-3	3	29	135
7153-4	120	1530	1531	0.19	-5	0	-34	-3	3	29	142.1
7155-4	120	1550	1551	0.19	-5	0	-34	-3	3	29	142.1
7157-4	120	1570	1571	0.19	-5	0	-34	-3	3	29	142.1
7159-4	120	1590	1591	0.19	-5	0	-34	-3	3	29	142.1
7161-4	120	1610	1611	0.19	-5	0	-34	-3	3	29	142.1
7147-5	140	1470	1471	0.22	-3	2	-36	-3	5	33	140.9
7149-5	140	1490	1491	0.21	-3	2	-36	-3	5	33	147.6
7151-5	140	1510	1511	0.2	-3	2	-36	-3	5	33	155
7153-5	140	1530	1531	0.19	-3	2	-36	-3	5	33	163.2
7155-5	140	1550	1551	0.19	-3	2	-36	-3	5	33	163.2
7157-5	140	1570	1571	0.19	-3	2	-36	-3	5	33	163.2
7159-5	140	1590	1591	0.19	-3	2	-36	-3	5	33	163.2
7161-5	140	1610	1611	0.19	-3	2	-36	-3	5	33	163.2
7147-6	150	1470	1471	0.22	0	5	-36	-3	8	36	154.5
7149-6	150	1490	1491	0.21	0	5	-36	-3	8	36	161.9
7151-6	150	1510	1511	0.2	0	5	-36	-3	8	36	170
7153-6	150	1530	1531	0.19	0	5	-36	-3	8	36	178.9
7155-6	150	1550	1551	0.19	0	5	-36	-3	8	36	178.9
7157-6	150	1570	1571	0.19	0	5	-36	-3	8	36	178.9
7159-6	150	1590	1591	0.19	0	5	-36	-3	8	36	178.9
7161-6	150	1610	1611	0.19	0	5	-36	-3	8	36	178.9

[1] Based on Corning SMF-28 single-mode fiber optic cable. [2] Calculated distance includes a 2dB margin.

* Calculated distance does not meet specification distance.

Consult the factory for industrial temperature (-40°C to +85°C) models

ORDERING INFORMATION

Fiber CWDM SFPs for devices that support Gigabit Ethernet, SONET OC-12 and SDH STM-4 network protocols. Compatible with a variety of Omnitron products, including *iConverter* xFF and Managed T1/E1 Mux.

Model	Spec. Distance (km)	Wavelength (nm)	Center Wavelength (nm)	Typical Loss[1] (db/km)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Sense (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dBm)	Link Budget (dBm)	Calc. Distance[2] (km)
7327-1	40	1270	1271	0.37	-5	0	-24	-3	3	19	45.9
7329-1	40	1290	1291	0.35	-5	0	-24	-3	3	19	48.6
7331-1	40	1310	1311	0.33	-5	0	-24	-3	3	19	51.5
7333-1	40	1330	1331	0.32	-5	0	-24	-3	3	19	53.1
7335-1	40	1350	1351	0.31	-5	0	-24	-3	3	19	54.8
7337-1	40	1370	1371	0.33	-5	0	-24	-3	3	19	51.5
7339-1*	40	1390	1391	0.48	-5	0	-24	-3	3	19	35.4
7341-1	40	1410	1411	0.33	-5	0	-24	-3	3	19	51.5
7343-1	40	1430	1431	0.27	-5	0	-24	-3	3	19	63
7345-1	40	1450	1451	0.24	-5	0	-24	-3	3	19	70.8
7327-2	50	1270	1271	0.37	0	5	-24	-3	8	24	59.5
7329-2	50	1290	1291	0.35	0	5	-24	-3	8	24	62.9
7331-2	50	1310	1311	0.33	0	5	-24	-3	8	24	66.7
7333-2	50	1330	1331	0.32	0	5	-24	-3	8	24	68.8
7335-2	50	1350	1351	0.31	0	5	-24	-3	8	24	71
7337-2	50	1370	1371	0.33	0	5	-24	-3	8	24	66.7
7339-2*	50	1390	1391	0.48	0	5	-24	-3	8	24	45.8
7341-2	50	1410	1411	0.33	0	5	-24	-3	8	24	66.7
7343-2	50	1430	1431	0.27	0	5	-24	-3	8	24	81.5
7345-2	50	1450	1451	0.24	0	5	-24	-3	8	24	91.7
7327-3	70	1270	1271	0.37	0	5	-30	-9	14	30	75.7
7329-3	70	1290	1291	0.35	0	5	-30	-9	14	30	80
7331-3	70	1310	1311	0.33	0	5	-30	-9	14	30	84.8
7333-3	70	1330	1331	0.32	0	5	-30	-9	14	30	87.5
7335-3	70	1350	1351	0.31	0	5	-30	-9	14	30	90.3
7337-3	70	1370	1371	0.33	0	5	-30	-9	14	30	84.8
7339-3*	70	1390	1391	0.48	0	5	-30	-9	14	30	58.3
7341-3	70	1410	1411	0.33	0	5	-30	-9	14	30	84.8
7343-3	70	1430	1431	0.27	0	5	-30	-9	14	30	103.7
7345-3	70	1450	1451	0.24	0	5	-30	-9	14	30	116.7
7347-3	70	1470	1471	0.22	-5	0	-24	-3	3	19	77.3
7349-3	70	1490	1491	0.21	-5	0	-24	-3	3	19	81
7351-3	70	1510	1511	0.2	-5	0	-24	-3	3	19	85
7353-3	70	1530	1531	0.19	-5	0	-24	-3	3	19	89.5
7355-3	70	1550	1551	0.19	-5	0	-24	-3	3	19	89.5
7357-3	70	1570	1571	0.19	-5	0	-24	-3	3	19	89.5
7359-3	70	1590	1591	0.19	-5	0	-24	-3	3	19	89.5
7361-3	70	1610	1611	0.19	-5	0	-24	-3	3	19	89.5

ORDERING INFORMATION

Fiber CWDM SFPs for devices that support Gigabit Ethernet, SONET OC-12 and SDH STM-4 network protocols. Compatible with a variety of Omnitron products, including *iConverter* xFF and Managed T1/E1 Mux.

Model	Spec. Distance (km)	Wavelength (nm)	Center Wavelength (nm)	Typical Loss[1] (db/km)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Sense (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dBm)	Link Budget (dBm)	Calc. Distance[2] (km)
7347-4	100	1470	1471	0.22	0	5	-24	-3	8	24	100
7349-4	100	1490	1491	0.21	0	5	-24	-3	8	24	104.8
7351-4	100	1510	1511	0.2	0	5	-24	-3	8	24	110
7353-4	100	1530	1531	0.19	0	5	-24	-3	8	24	115.8
7355-4	100	1550	1551	0.19	0	5	-24	-3	8	24	115.8
7357-4	100	1570	1571	0.19	0	5	-24	-3	8	24	115.8
7359-4	100	1590	1591	0.19	0	5	-24	-3	8	24	115.8
7361-4	100	1610	1611	0.19	0	5	-24	-3	8	24	115.8
7347-5	130	1470	1471	0.22	0	5	-30	-9	14	30	127.3
7349-5	130	1490	1491	0.21	0	5	-30	-9	14	30	133.3
7351-5	130	1510	1511	0.2	0	5	-30	-9	14	30	140
7353-5	130	1530	1531	0.19	0	5	-30	-9	14	30	147.4
7355-5	130	1550	1551	0.19	0	5	-30	-9	14	30	147.4
7357-5	130	1570	1571	0.19	0	5	-30	-9	14	30	147.4
7359-5	130	1590	1591	0.19	0	5	-30	-9	14	30	147.4
7361-5	130	1610	1611	0.19	0	5	-30	-9	14	30	147.4
7347-6	150	1470	1471	0.22	0	5	-35	-9	14	35	150.0
7349-6	150	1490	1491	0.21	0	5	-35	-9	14	35	157.1
7351-6	150	1510	1511	0.2	0	5	-35	-9	14	35	165.0
7353-6	150	1530	1531	0.19	0	5	-35	-9	14	35	173.7
7355-6	150	1550	1551	0.19	0	5	-35	-9	14	35	173.7
7357-6	150	1570	1571	0.19	0	5	-35	-9	14	35	173.7
7359-6	150	1590	1591	0.19	0	5	-35	-9	14	35	173.7
7361-6	150	1610	1611	0.19	0	5	-35	-9	14	35	173.7

[1] Based on Corning SMF-28 single-mode fiber optic cable. [2] Calculated distance includes a 2dB margin.
* Calculated distance does not meet specification distance.

Consult the factory for industrial temperature (-40°C to +85°C) models

Fiber CWDM SFP+s for devices that support 10 Gigabit Ethernet and compatible with the *iConverter* XG/XG+.

Model	Application Distance (km)	Wavelength (nm)	Center Wavelength (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Sense (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dBm)	Link Budget (dBm)
7327E-1	10	1270	1271	-3	1	-14	0.5	0.5	11
7329E-1	10	1290	1291	-3	1	-14	0.5	0.5	11
7331E-1	10	1310	1311	-3	1	-14	0.5	0.5	11
7333E-1	10	1330	1331	-3	1	-14	0.5	0.5	11
7335E-1	10	1350	1351	-3	1	-14	0.5	0.5	11
7337E-1	10	1370	1371	-3	1	-14	0.5	0.5	11
7339E-1	10	1390	1391	-3	1	-14	0.5	0.5	11
7341E-1	10	1410	1411	-3	1	-14	0.5	0.5	11
7343E-1	10	1430	1431	-3	1	-14	0.5	0.5	11
7345E-1	10	1450	1451	-3	1	-14	0.5	0.5	11
7347E-1	10	1470	1471	-3	1	-14	0.5	0.5	11
7349E-1	10	1490	1491	-3	1	-14	0.5	0.5	11
7351E-1	10	1510	1511	-3	1	-14	0.5	0.5	11
7353E-1	10	1530	1531	-3	1	-14	0.5	0.5	11
7355E-1	10	1550	1551	-3	1	-14	0.5	0.5	11
7357E-1	10	1570	1571	-3	1	-14	0.5	0.5	11
7359E-1	10	1590	1591	-3	1	-14	0.5	0.5	11
7361E-1	10	1610	1611	-3	1	-14	0.5	0.5	11
7327E-2	40	1270	1271	1	5	-15	0	5	16
7329E-2	40	1290	1291	1	5	-15	0	5	16
7331E-2	40	1310	1311	1	5	-15	0	5	16
7333E-2	40	1330	1331	1	5	-15	0	5	16
7347E-2	40	1470	1471	-1	3	-16	-1	4	15
7349E-2	40	1490	1491	-1	3	-16	-1	4	15
7351E-2	40	1510	1511	-1	3	-16	-1	4	15
7353E-2	40	1530	1531	-1	3	-16	-1	4	15
7355E-2	40	1550	1551	-1	3	-16	-1	4	15
7357E-2	40	1570	1571	-1	3	-16	-1	4	15
7359E-2	40	1590	1591	-1	3	-16	-1	4	15
7361E-2	40	1610	1611	-1	3	-16	-1	4	15

Consult the factory for industrial temperature (-40^{O}C to +85^{O}C) models

ORDERING INFORMATION

Fiber CWDM XFPs for devices that support 10 Gigabit Ethernet and compatible with the *iConverter* XG/XG+

Model	Application Distance (km)	Wavelength (nm)	Center Wavelength (nm)	Min. Tx Power (dBm)	Max. Tx Power (dBm)	Min. Rx Sense (dBm)	Max. Rx Power (dBm)	Min. Attenuation (dBm)	Link Budget (dBm)
7527-1	10	1270	1271	-3	1	-14	0.5	0.5	11
7529-1	10	1290	1291	-3	1	-14	0.5	0.5	11
7531-1	10	1310	1311	-3	1	-14	0.5	0.5	11
7533-1	10	1330	1331	-3	1	-14	0.5	0.5	11
7535-1	10	1350	1351	-3	1	-14	0.5	0.5	11
7537-1	10	1370	1371	-3	1	-14	0.5	0.5	11
7539-1	10	1390	1391	-3	1	-14	0.5	0.5	11
7541-1	10	1410	1411	-3	1	-14	0.5	0.5	11
7543-1	10	1430	1431	-3	1	-14	0.5	0.5	11
7545-1	10	1450	1451	-3	1	-14	0.5	0.5	11
7547-1	10	1470	1471	-3	1	-14	0.5	0.5	11
7549-1	10	1490	1491	-3	1	-14	0.5	0.5	11
7551-1	10	1510	1511	-3	1	-14	0.5	0.5	11
7553-1	10	1530	1531	-3	1	-14	0.5	0.5	11
7555-1	10	1550	1551	-3	1	-14	0.5	0.5	11
7557-1	10	1570	1571	-3	1	-14	0.5	0.5	11
7559-1	10	1590	1591	-3	1	-14	0.5	0.5	11
7561-1	10	1610	1611	-3	1	-14	0.5	0.5	11
7527-2	40	1270	1271	1	5	-15	0	5	16
7529-2	40	1290	1291	1	5	-15	0	5	16
7531-2	40	1310	1311	1	5	-15	0	5	16
7533-2	40	1330	1331	1	5	-15	0	5	16
7347-2	40	1470	1471	-1	4	-16	-1	5	15
7349-2	40	1490	1491	-1	4	-16	-1	5	15
7351-2	40	1510	1511	-1	4	-16	-1	5	15
7353-2	40	1530	1531	-1	4	-16	-1	5	15
7355-2	40	1550	1551	-1	4	-16	-1	5	15
7357-2	40	1570	1571	-1	4	-16	-1	5	15
7359-2	40	1590	1591	-1	4	-16	-1	5	15
7361-2	40	1610	1611	-1	4	-16	-1	5	15

Consult the factory for industrial temperature (-40°C to +85°C) models

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091-17100-001K 5/12

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